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Polyominoes on a multicoloured infinite grid.

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From the text: A polyomino is a figure consisting of unit squares joined edge to edge. The polyominoes with 1, 2, 3, 4 and 5 squares are called monominoes, dominoes, trominoes, tetrominoes and pentominoes, and their numbers are 1, 1, 2, 5 and 12, respectively. Many fascinating problems are based on polyominoes, and they are also the focus of our investigation. We divide the infinite plane into unit squares by two sets of grid lines which are mutually perpendicular and evenly spaced. Each square is to be painted in some colour. For a given polyomino, we seek a scheme using the minimum number of colours so that wherever the polyomino is placed, as long as each of its squares covers one square of the grid, the covered squares all have different colours.

Classification: G90 K20 A20

Keywords: polyominoes; combinatorics; n -colour infinite grid; covered unit squares; tetrominoes; pentominoes